

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): An apparatus for generating a signal for wireless transmission comprising signal generating means for receiving data and generating a signal containing received data for wireless transmission, and a controller means for controlling the data carrying capacity of said signal, based on one or more of (1) a condition of the wireless signal received by a wireless receiver and (2) an indication of a condition in the path of the wireless signal which affects transmission of the wireless signal.

Claims 2-11 (canceled)

Claim 12 (currently amended): ~~An apparatus~~ A fixed-position wireless transmitter for generating a signal for wireless transmission comprising signal generating means for receiving data and generating a signal containing received data for wireless transmission[[,]] at a frequency at or above 2 GHz which causes said wireless signal to be attenuated by atmospheric precipitation, monitoring means for monitoring the quantity of data supplied to said signal generating means for wireless transmission, and control means for controlling the power of the generated wireless signal within a range reserved to compensate for attenuation by atmospheric precipitation in response to said monitored quantity of data for wireless transmission.

Claim 13 (currently amended): ~~An apparatus~~ A fixed-position wireless transmitter as claimed in claim 12, further comprising request generating means for generating a request to increase the power of said wireless signal, receiving means for receiving a signal indicating whether permission to increase the power is granted or denied, and wherein said control means is adapted to control said power in response to the received signal.

Claim 14 (currently amended): ~~An apparatus~~ A fixed-position wireless transmitter as claimed in claim 12, further comprising notification generating means for generating a signal based on the power of said wireless signal and means for transmitting the notification signal.

Claim 15 (currently amended): ~~An apparatus~~ A fixed-position wireless transmitter as claimed in claim 12, further comprising comparing means for comparing a parameter indicative of the monitored quantity of data for wireless transmission with a predetermined threshold value, and wherein said controller is arranged to control said signal generating means to decrease said power in response to said parameter decreasing from a value at or above said predetermined threshold to a value below said predetermined threshold.

Claim 16 (currently amended): ~~An apparatus~~ A fixed-position wireless transmitter as claimed in claim 12, further comprising memory means storing a parameter indicative of the maximum output power level for the wireless transmission signal that does not interfere with another wireless signal.

Claim 17 (currently amended): A fixed-position transmitter for generating and transmitting a wireless communication signal, the transmitter including signal control means for varying the power of the communication signal and ~~limited~~ limiting means for limiting the control means to control the power to ~~reduce or~~ substantially prevent interference by said wireless communication signal of a second wireless communication signal from another fixed-position transmitter.

Claim 18 (currently amended): A fixed-position transmitter as claimed in claim 17, wherein said limiting means stores information indicative of the maximum power level for said transmitter to substantially prevent interference with said second communication signal.

Claim 19 (currently amended): A fixed-position transmitter as claimed in claim 18, wherein said ~~value~~ maximum power level is determined based on the location of said transmitters.

Claim 20 (currently amended): A fixed-position transmitter as claimed in claim 18, wherein said ~~value~~ maximum power level is calculated based on the topology of the area in which said transmitters are located.

Claim 21 (currently amended): A fixed-position transmitter as claimed in claim 18, wherein said ~~value~~ maximum power level is based on a measurement of real interference by said wireless communication signal of said second wireless communication signal.

Claim 22 (currently amended): A fixed-position transmitter as claimed in claim 17, wherein said limiting means is responsive to a signal indicative of interference by said wireless communication signal of said second wireless communication ~~wireless~~ signal to cause said control means to reduce said power.

Claim 23 (currently amended): A fixed-position transmitter as claimed in claim 22, further comprising a wireless receiver for receiving said signal indicative of said interference.

Claim 24 (currently amended): A fixed-position transmitter as claimed in claim 17, further comprising signal generating means for generating a signal indicative of a power level for said wireless communication signal and for transmitting said signal.

Claim 25 (currently amended): A fixed-position transmitter as claimed in claim 24, wherein said signal indicative of a power level comprises a request for changing the power level of said wireless communication signal.

Claim 26 (currently amended): A fixed-position transmitter as claimed in claim 24, wherein said signal indicative of a power level comprises a request for increasing said power level.

Claim 27 (currently amended): A fixed-position transmitter as claimed in claim 24, wherein said signal indicative of a power level comprises a notification of a power level for said wireless communication signal.

Claim 28 (currently amended): A fixed-position transmitter as claimed in claim 27, wherein said notification comprises one of an increase and a decrease in said power level.

Claim 29 (currently amended): A fixed-position transmitter as claimed in claim 17, further comprising means for receiving data for wireless transmission, monitoring means for monitoring a parameter indicative of the quantity of received data, and signal generating means for

generating a signal in response to said parameter indicative of a power level for said wireless communication signal.

Claim 30 (currently amended): A fixed-position transmitter as claimed in claim 29, wherein said signal indicative of a power level comprises a request to change said power level.

Claim 31 (currently amended): A fixed-position transmitter as claimed in claim 30, wherein said request comprises a request to increase said power level.

Claim 32 (currently amended): A fixed-position transmitter as claimed in claim 29, wherein said signal indicative of a power level comprises a notification indicative of a power level for said wireless communication signal.

Claim 33 (currently amended): A fixed-position transmitter as claimed in claim 32, wherein said notification comprises one of an increase and a decrease of said power level.

Claim 34 (currently amended): A fixed-position transmitter as claimed in claim 29, wherein said receiving means comprises a buffer and said parameter is based on the level of data contained in said buffer.

Claim 35 (currently amended): A fixed-position transmitter as claimed in claim 29, further comprising channel capacity control means for varying the capacity of said wireless communication signal in response to said parameter.

Claim 36 (currently amended): A fixed-position transmitter as claimed in claim 35, wherein said capacity control means comprises a modulator capable of modulating data at at least two different levels of the number of bits per baud.

Claim 37 (currently amended): A fixed-position transmitter as claimed in claim 35, wherein said capacity varying means comprises coding means for inserting code into said data and for varying the quantity of code inserted into said data.

Claim 38 (currently amended): A fixed-position transmitter as claimed in claim 17, further comprising signal receiving means for receiving a signal indicative of a quality of said wireless

communication signal and capacity control means for controlling the data-carrying capacity of said wireless communication signal in response to the quality indicating signal.

Claim 39 (currently amended): A fixed-position transmitter as claimed in claim 38, wherein said quality is based on a measurement of at least one of the power level of the wireless communication signal as received by a wireless receiver, and the level of error contained in the transmitted wireless communication signal as received by a wireless receiver.

Claim 40 (currently amended): A fixed-position transmitter as claimed in claim 39, wherein said quality indicating signal comprises a signal transmitted from another transmitter.

Claim 41 (currently amended): A fixed-position transmitter as claimed in claim 38, wherein said signal receiving means comprises a wireless receiver for receiving a wireless communication signal, and said transmitter further comprises means for monitoring a quality of a wireless communication signal received by said receiver and wherein said capacity control means is responsive to said monitored quality for controlling the data carrying capacity of said wireless communication signal.

Claim 42 (currently amended): A fixed-position transmitter as claimed in claim 41, wherein said quality monitor comprises means for detecting an error rate in said received wireless communication signal.

Claim 43 (currently amended): A fixed-position transmitter as claimed in claim 38, wherein said capacity control means is arranged to reduce the capacity of said wireless communication signal in response to an indication that said quality is below a predetermined threshold.

Claim 44 (currently amended): A fixed-position transmitter as claimed in claim 38, wherein said power controller is responsive to said quality indicating signal to increase said power level.

Claim 45 (original): A transmitter for generating a communication signal for wireless transmission, comprising monitoring means for monitoring a quality of said wireless communication signal and capacity control means for controlling the data carrying capacity of said wireless communication signal in response to said monitored quality.

Claim 46 (original): A transmitter as claimed in claim 45, wherein said capacity control means is arranged to reduce the capacity of said wireless communication signal if said quality falls below a predetermined threshold.

Claim 47 (original): A transmitter as claimed in claim 45, further comprising power control means for controlling the power of said wireless communication signal in response to said quality.

Claim 48 (original): A transmitter as claimed in claim 47, wherein said power control means is responsive to said quality to increase said power level if said quality falls below a predetermined threshold.

Claim 49 (original): A transmitter as claimed in claim 45, wherein said capacity control means comprises a modulator capable of varying the number of bits per baud between at least two different levels.

Claim 50 (original): A transmitter as claimed in claim 45, wherein said capacity control means comprises a coder for inserting code into said data and being capable of varying the quantity of code inserted into said data.

Claim 51 (currently amended): A controller for controlling the operation of a ~~of~~ fixed-position wireless transmitter in a wireless communication network containing a plurality of fixed-position wireless transmitters, comprising monitoring means for monitoring interference of a communication channel associated with a fixed-position wireless ~~transceiver~~ transmitter by a wireless signal from another fixed-position wireless transmitter, signal generating means for generating a signal indicative of interference and identifying said other wireless transmitter, and transmitting means for transmitting said interference indicating signal to the transmitter transmitting the wireless signal causing the interference to control the level of interference.

Claim 52 (original): A controller as claimed in claim 51, wherein said monitoring means is adapted to receive a signal indicative of said interference from a wireless transmitter and said generating means is responsive to said signal to generate said signal indicating said interference.

Claim 53 (original): A controller as claimed in claim 51, wherein said signal indicating interference comprises a message for reducing the power level of the wireless signal causing said interference.

Claim 54 (original): A controller as claimed in claim 51, wherein said controller is adapted to control the operation of a plurality of wireless transmitters.

Claim 55 (currently amended): A controller for controlling the operation of a fixed-position wireless transmitter in a wireless communication network containing a plurality of fixed-position wireless transmitters, comprising monitoring means for monitoring a signal indicative of a power level of a wireless communication signal transmitted by a fixed-position transmitter, comparing means for comparing the power level with a predetermined value, and transmitting means for transmitting a signal to said transmitter in response to said comparison indicative of the result of said comparison.

Claim 56 (original): A controller as claimed in claim 55, wherein said predetermined power level comprises a value which is insufficient to cause substantial interference with another communication channel.

Claim 57 (original): A controller as claimed in claim 56, wherein said predetermined level is substantially the maximum power level that does not cause substantial interference with another communication channel.

Claim 58 (original): A controller as claimed in claim ~~55~~ 57, wherein said other communication channel is associated with another fixed-position wireless transmitter in said communication network.

Claim 59 (original): A controller as claimed in claim 58, wherein said other communication channel comprises a wireless communication channel received by a wireless receiver associated with another transmitter of said communication network

Claim 60 (original): A controller as claimed in claim 55, wherein said predetermined power level is insufficient to cause interference with communication channels associated with any other fixed-position transmitter of said communication network.

Claim 61 (currently amended): A controller as claimed in claim 55, wherein said signal indicative of a power level comprises a request from said transmitter to increase its power level, and said transmitting means is arranged to transmit a signal indicative of an allowance of said requested increase if said requested power level is less than or equal to said predetermined value and a denial of said requested increase if the requested power level exceeds said predetermined value.

Claim 62 (currently amended): A controller for controlling the operation of a fixed-position wireless transmitter in a wireless communication network having a plurality of fixed-position wireless transmitters, comprising receiving means for receiving a signal indicative of a power level for a wireless communication signal from a fixed-position transmitter in said network, and transmitting means for transmitting a signal in response to the received signal to another fixed-position transmitter in said network for enabling said transmitter to increase the power level of its wireless transmission signal.

Claims 63-67 (canceled)

Claim 68 (original): A method of generating a signal for carrying data for wireless transmission, comprising monitoring a parameter indicative of a quality of said wireless signal, comparing said quality with predetermined value and decreasing the capacity of the wireless signal if said parameter falls below a predetermined value.

Claim 69 (currently amended): A method of controlling a fixed-position transmitter in a wireless communication network containing a plurality of fixed-position transmitters, comprising monitoring interference of a wireless communication channel associated with a fixed-position transmitter in said network by a second wireless communication channel associated with another fixed-position transmitter in said network and in response to determining interference, transmitting a signal to the transmitter causing said interference to reduce the power level of its wireless transmission channel.

Claim 70 (currently amended): A method of determining an acceptable level of transmission power for each of a plurality of fixed-position transmitters in a wireless communication network comprising the steps of increasing the transmission power of each fixed-position transmitter in turn, monitoring interference of a communication channel associated with at least one of the other fixed-position transmitters and determining an acceptable level of transmission power for each fixed-position transmitter based on the power level of each transmitter at which an interference condition is detected.

Claim 71 (currently amended): An apparatus for generating a signal for wireless transmission, comprising signal generating means for receiving data and generating an output signal containing received data for wireless transmission, monitoring means for monitoring the quantity of data supplied to said generating means for wireless transmission and a controller for controlling said signal generating means to vary the rate at which data is output from said signal generating means in said output signal in response to said monitored quantity of data for wireless transmission, wherein said signal generating means includes signal encoding means for inserting code into said data, and said controller is arranged to control the quantity of code inserted into said data in response to said monitored quantity of data for wireless transmission.

Claim 72 (canceled)

Claim 73 (currently amended): An apparatus as claimed in claim ~~72~~ 71, wherein said code provides an error check.

Claim 74 (original): An apparatus as claimed in claim 73, wherein said code comprises a forward error correction code (FEC).

Claim 75 (original): An apparatus as claimed in claim 71, wherein said signal generating means includes signal modulating means capable of modulating said signal with data at at least two different data rates, and said controller is arranged to control said modulating means to modulate said signal at a data rate determined according to the monitored quantity of data for wireless transmission.

Claim 76 (original): An apparatus as claimed in claim 71, wherein said signal generating means further includes a signal amplifier for amplifying said signal, and said controller is arranged to control the gain and/or power output of said amplifier in response to said monitored quantity of data for wireless transmission.

Claim 77 (original): An apparatus as claimed in claim 71, further comprising comparing means for comparing a parameter indicative of the monitored quantity of data for wireless transmission with a predetermined threshold value and wherein said controller is arranged to control said generating means to decrease the data transmission rate in response to said parameter decreasing from a value at or above said predetermined threshold to a value below said predetermined threshold.

Claim 78 (original): An apparatus as claimed in claim 77, wherein said controller is arranged to control said modulating means to reduce the modulation rate in response to said parameter falling below said predetermined threshold value.

Claim 79 (original): An apparatus as claimed in claim 71, further comprising comparing means for comparing a parameter indicative of the monitored quantity of data for RF transmission with a threshold value and for communicating the result of said comparison to said controller.

Claim 80 (original): An apparatus as claimed in claim 79, wherein said controller is arranged to control said generating means to increase the rate of data transmission if said parameter exceeds said threshold value.

Claim 81 (original): An apparatus as claimed in claim 80, further including delay means for delaying the response of said controller to said parameter passing above or below said predetermined threshold.

Claim 82 (original): An apparatus as claimed in claim 81, wherein said delay means comprises counter means for counting the number of times said parameter passes said predetermined threshold, said controller being arranged not to respond to control said generating means until said number reaches a predetermined value.

Claim 83 (original): An apparatus as claimed in claim 79, further comprising request generating means for generating a request to a control station to increase the data transmission rate in response to said monitored quantity of data for wireless transmission, receiving means for receiving a signal indicating whether permission to increase the data transmission rate is granted or denied, wherein said controller controls said generating means in response to the received signal.

Claim 84 (original): An apparatus as claimed in claim 79, further comprising request generating means for generating a request to a control station to increase the gain of said amplifier and receiving means for receiving a signal from said control station indicating whether permission to increase said gain is granted or denied, said controller being arranged to control said generating means in response to said received signal.

Claim 85 (original): An apparatus as claimed in claim 79, further comprising memory means for storing a parameter indicative of the maximum output power level of the wireless data transmission signal which does not interfere with other wireless transmission signals.

Claim 86 (currently amended): A communication system comprising a first fixed-position wireless transmitter and a second fixed-position wireless transmitter, the first transmitter having means to vary the power level of the wireless transmission signal transmitted by said first transmitter, said second transmitter comprising signal generating means for generating a signal for wireless transmission containing data and means to vary the rate at which data is placed onto said signal, communication means for communicating from said first transmitter to said second transmitter a signal indicative of the wireless signal power level from said first transmitter, said second transmitter including means for increasing the data transmission rate output by said second transmitter when the power level of said first transmitter communicated by said communicating means is at a predetermined value.

Claim 87 (currently amended): A communication system comprising a first fixed-position wireless transmitter and a second fixed-position wireless transmitter, each transmitter having means to vary the output power level of its respective wireless transmission signal and means for communicating a signal from at least one of said first and second transmitter to the other

transmitter indicative of the power level of said one transmitter, the other transmitter including means for varying its output power level in response to said signal communicated by said communication means.

Claim 88 (currently amended): A communication system comprising a fixed-position transmitter for generating and transmitting a wireless data transmission signal, a fixed-position receiver for receiving said wireless data transmission signal from said transmitter, means responsive to the attenuation of said wireless signal, and/or the presence of a potentially attenuating medium in path of said signal for causing the output level of said wireless transmission signal to be increased when the attenuation reaches a predetermined level and/or the presence of said potentially attenuating medium is detected, detection means for detecting interference of another signal by said wireless transmission signal and control means for reducing the power level of said transmission signal output by said transmitter in response to the detection of said interference above an acceptable level.

Claim 89 (new): An apparatus as claimed in claim 1, wherein said controller is operable to reduce the data carrying capacity of the signal from a first level to a second level in response to at least one of: (1) a reduction in quality of the received signal, (2) a reduction in the power of the received signal and (3) the condition in the path of the wireless signal being a condition which adversely affects the transmission of the wireless signal.

Claim 90 (new): An apparatus as claimed in claim 89, wherein said condition in the path of the wireless signal comprises at least one of an adverse weather condition and interference by another wireless signal.

Claim 91 (new): An apparatus as claimed in claim 90, wherein said adverse weather condition comprises one or more of rain, sleet, hail and snow.

Claim 92 (new): An apparatus as claimed in claim 1, wherein said controller is arranged to control said capacity in response to a measurement of error in the received signal.

Claim 93 (new): An apparatus as claimed in claim 1, wherein said controller is adapted to control modulation of at least one parameter defining the data carrying signal to vary said capacity.

Claim 94 (new): An apparatus as claimed in claim 93, wherein said parameter is at least one of amplitude and phase.

Claim 95 (new): An apparatus as claimed in claim 1, comprising a modulator for modulating the signal with the data according to two or more different modulation methods, each having a different data transmission capacity.

Claim 96 (new): An apparatus as claimed in claim 1, further comprising a modulator for modulating said signal with said data and being capable of changing the number of data bits per baud between at least two different levels.

Claim 97 (new): An apparatus as claimed in claim 1, wherein said controller means includes encoding means for inserting code into said data, and code control means for controlling the quantity of code inserted into said data.

Claim 98 (new): An apparatus as claimed in claim 97, wherein said code comprises error correction code for enabling errors in the data to be corrected.

Claim 99 (new): An apparatus as claimed in claim 97, wherein said controller is operable to reduce said data carrying capacity of said signal by increasing the amount of code inserted into said data.

Claim 100 (new): An apparatus as claimed in claim 99, wherein said code is error correction code for enabling errors in the data to be corrected.

Claim 101 (new): An apparatus as claimed in claim 1, wherein said controller is adapted to control said capacity in response to the quantity of data supplied to said signal generating means.

Claim 102 (new): An apparatus as claimed in claim 1, wherein said controller is arranged to control said capacity based on a parameter defining a wireless signal generated by another wireless signal generator.

Claim 103 (new): An apparatus as claimed in claim 1, comprising a further controller for controlling the power of said wireless signal.

Claim 104 (new): An apparatus as claimed in claim 103, wherein said further controller is adapted to control said power in response to at least one of (a) the quantity of data received by said signal generating means, (b) a condition of the transmitted wireless signal as received by a wireless receiver, and (c) a condition of another wireless signal generator.

Claim 105 (new): An apparatus as claimed in claim 1, further comprising means for generating and transmitting a signal indicative of at least one of the capacity and power of said signal.

Claim 106 (new): An apparatus as claimed in claim 1, incorporated in a fixed-position radio transmitter.

Claim 107 (new): A fixed-position wireless transmitter as claimed in claim 12, further comprising receiving means for receiving a signal identifying the fixed-position wireless transmitter and indicating that the wireless signal transmitted thereby is causing interference, and wherein said control means is adapted to reduce said power in response to the received signal.

Claim 108 (new): A fixed-position wireless transmitter as claimed in claim 12, wherein said control means is operable to increase said power without requesting permission.

Claim 109 (new): A fixed-position wireless transmitter as claimed in claim 12, wherein said controller is responsive to the quantity of data falling below a threshold level to reduce the power of said wireless signal to a value below a normal value reserved for said transmitter.

Claim 110 (new): A fixed-position wireless transmitter as claimed in claim 109, further comprising a controller for controlling the data carrying capacity of the wireless signal, and operative to reduce said capacity in response to the quantity of data falling below said predetermined threshold.

Claim 111 (new): A method as claimed in claim 68, comprising receiving data for wireless transmission, monitoring a parameter indicative of the quantity of received data and varying the rate at which data is included in said signal in response to said monitored parameter.

Claim 112 (new): A method as claimed in claim 111, comprising controlling said rate by controlling the capacity of said wireless transmission channel.

Claim 113 (new): A method as claimed in claim 111, comprising increasing said data rate if said parameter reaches or exceeds a predetermined threshold.

Claim 114 (new): A method as claimed in claim 111, comprising decreasing said rate from a first level to a second level if said parameter reaches or falls below a predetermined threshold.

Claim 115 (new): A method as claimed in claim 111, further comprising controlling the power of said signal in response to said parameter.